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ABSTRACT

The 1988-89 Chapter I Remedial Reading and Mathematics Program was implemented by the Division of Special Education's District 75 of the New York City Board of Education. It provided remedial instructional services to 842 students in reading and 114 students in mathematics. The program also trained teachers to address students' academic and affective needs more effectively. To evaluate the program, interview and observation data were collected from 7 of the 17 participating schools, and data retrieval forms were collected from all participating students. Results showed that: (1) staff development covered many relevant topics; (2) 71% of teachers reported moderate or full collaboration between Chapter 1 teachers and special education teachers in planning and instruction; (3) student pre-test results were used by all teachers to develop instructional plans; (4) teachers used a wide variety of teaching strategies and equipment to provide instruction; and (5) the program surpassed its student achievement objectives in every category. More than 76% of students for whom complete data was available demonstrated a gain in reading comprehension, 92.4% of students mastered math objectives at a rate of 2 or more per 20 sessions attended, and 35% of students mastered mathematics objectives at a rate of 5 or more per 20 sessions attended. (JDD)

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OREA Report

Evaluation Section Report

D.S.E. CITYWIDE
CHAPTER I
REMEDIAL READING AND MATHEMATICS
PROGRAM 1988-89

EC 231 864

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EVALUATION SECTION REPORT

John E. Schoener, Chief Administrator

January, 1990

Evaluation Section Report

D.S.E. CITYWIDE
CHAPTER I
REMEDIAL READING AND MATHEMATICS
PROGRAM 1988-89

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District 75's CHAPTER I
REMEDIAL READING AND MATHEMATICS
PROGRAM 1988-89

SUMMARY

The 1988-89 Chapter I Remedial Reading and Mathematics Program (Chapter I) was implemented by the Division of Special Education's District 75 of the Board of Education. It provided remedial instructional services to students in Specialized Instructional Environment (SIE) programs at 13 public and four non-public schools. A total of 842 students received reading instruction; 114 of these students also received mathematics instruction.

The Chapter I program was designed to provide remedial instruction to students and to train their teachers to address these students' academic and affective needs more effectively, and consequently increase the number of placements in less restrictive environments. More specifically, the program had two educational objectives:

- By June 30, 1989, 75 percent of the Chapter I target population receiving remedial reading instruction would gain in reading comprehension as measured by the Stanford Diagnostic Reading Test, Third Edition;

- By June 30, 1989, 80 percent of the Chapter I students receiving remedial mathematics instruction would master skills not mastered prior to the program at the rate of two or more skills per 20 sessions attended, and 30 percent would master five or more skills per 20 sessions attended as measured by an ongoing administration of the Individual Criterion Referenced test (I.C.R.T.).

OREA collected interview and observation data from seven of the 17 schools participating in the program and data retrieval forms for all students who participated in Chapter I reading and/or mathematics sessions. OREA's evaluation was based on qualitative data on program implementation which consisted of staff development, teacher collaboration, student instruction, parent communication, and participant feedback, and quantitative data on students' academic performance.

OREA found that Chapter I staff development covered many relevant topics although the amount of training provided was less than originally proposed. At least 71 percent of all respondents reported moderate or full collaboration between Chapter I teachers and special education teachers in planning and instruction, but half of the respondents reported that they needed more time for joint planning. The OREA findings demonstrate that, as planned, student pre-test results were used by all teachers to develop instructional plans and that teachers used a wide variety of teaching strategies and equipment to provide instruction.

The Chapter I teaching staff maintained regular contact with students' parents through a wide variety of methods. Chapter I participants reported many positive aspects of the program such as its organization, the work of its staff, and the appropriateness of lessons, topics, and materials. The most frequently mentioned suggestions for improving the program were that the Chapter I staff be expanded and that student attendance, behavior, and attitudes be improved.

OREA found that the Chapter I program surpassed its student achievement objectives in every category. More than 76 percent of students for whom complete data was available demonstrated a gain in reading comprehension, surpassing the program objective of 75 percent. OREA also found that 92.4 percent of students mastered math objectives at a rate of two or more per 20 sessions attended, surpassing the 80 percent objective. Finally, nearly 35 percent of students mastered mathematics objectives at a rate of five or more per 20 sessions attended, surpassing the objective of 30 percent.

Based on the above findings, OREA made the following program recommendations.

- Training provided by the Chapter I program should be expanded.
- Chapter I teachers and special education teachers should be given more time for joint planning and instruction.
- Chapter I staff should be expanded to include more classroom teachers.
- The program staff should explore ways of improving student attendance, behavior, and attitudes.

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I. INTRODUCTION

The Chapter I Remedial Reading and Mathematics 1988-89 Program was designed by the Division of Special Education's District 75 of the Board of Education (B.O.E.) to provide remedial instructional services to SIE VII and VIII students in 13 public and four non-public schools serving a total of 842 students.

PROGRAM GOALS

The Chapter I program was designed to provide instruction for students who demonstrate a need for remedial reading or mathematics. Those who improve their skills by participating in the program, and continue to need assistance to maintain those gains, are also eligible for Chapter I services. The program was also intended to train the teachers of participating students so that they can more effectively address their students' academic and affective needs, thereby increasing placements in less restrictive environments. Instruction was to be similar to that provided by the compensatory education programs offered in general education settings so that it could address the needs that special and general education students have in common. However, the program was specifically adapted to address the needs of Specialized Instructional Environment (SIE) students.

PROGRAM OBJECTIVES

The program had two specific educational objectives.

- By June 30, 1989, 75 percent of the Chapter I target population receiving remedial reading instruction would gain in reading comprehension as measured by the Stanford Diagnostic Reading Test, Third Edition.
- By June 30, 1989, 80 percent of the Chapter I students receiving remedial mathematics instruction would master skills not mastered prior to the program at the rate of two or more skills per 20 sessions attended. Thirty percent would

master five or more skills per 20 sessions attended as measured by an ongoing administration of the Individual Criterion Referenced test (I.C.R.T.).

PROGRAM DESCRIPTION

The 1988-89 program was designed to provide services to a total of approximately 800 handicapped students between seven and 18 years of age, in self-contained monolingual and bilingual classes in elementary, junior high, intermediate, or special schools in the public school system, or to students with similar characteristics in non-public schools. The program was intended to provide services to approximately 700 students in 13 District 75 public school sites with SIE VII and VIII and 100 students in four non-public school sites.

The reading component focused on an integrated instructional approach that included the development of listening, speaking, and writing skills. Chapter I teachers were to provide at least three periods of reading instruction per week at each site. Instructional goals were based on the analysis of test scores on the Stanford Diagnostic Reading Test, third edition administered to all Chapter I eligible students. Chapter I provided instructional materials to support the developmental reading program already in place in program schools in order to meet the individual needs of participating students.

The instructional focus of the mathematics component was to reinforce those skills which were identified as areas of need on the individual student's I.C.R.T. Among the skills to be developed were numeration, computation, reasoning, and solving word problems. The program planned to provide manipulative, representational, and abstract materials to help students develop concrete, semi-concrete, and abstract levels of understanding.

Staff Development

The Chapter I staff development target population consisted of Chapter I teachers, special education teachers working with Chapter I students, and other instructional support and administrative personnel. Staff development was intended to disseminate the results of current research in the area of remedial education and to meet the other training needs of the target population. The training content, methods, and materials were to be based on the interests and needs of staff. The Chapter I coordinator, her assistants, the Chapter I teachers, District 75 staff developers, and outside consultants conducted the various training sessions. Training was to consist of monthly meetings as well as individual and small group sessions. Coordinators, their assistants, Chapter I teachers, and outside consultants were to conduct the training.

REPORT FORMAT

This report presents OREA's evaluation of the District 75 Chapter I 1988-89 Program. It is organized as follows: the evaluation methodology is described in Chapter II, the evaluation findings are presented in Chapter III, and OREA's conclusions and recommendations are discussed in Chapter IV.

II. METHODOLOGY

OREA's evaluation of the 1988-89 Chapter I Remedial Reading and Mathematics program was based on qualitative data on program implementation (including staff development, teacher collaboration, student instruction, parent communication, and participant feedback) and quantitative data on students' academic performance.

EVALUATION QUESTIONS

The questions OREA answered in the evaluation were the following:

Program Implementation

- Was staff development adequate?
- To what extent did the program teachers and special education classroom teachers collaborate?
- What instructional approaches and equipment were used in the classroom?
- How did program staff communicate with parents?
- What were the strengths of the program?
- Which areas of the program needed improvement?

Program Outcomes

Did the Chapter I Remedial Reading and Mathematics program meet the following objectives?

- By June 30, 1989, 75 percent of the target population receiving remedial reading instruction would gain in reading comprehension as measured by the Stanford Diagnostic Reading Test, Third Edition.
- By June 30, 1989, 80 percent of the Chapter I students receiving remedial mathematics instruction would master skills which they had not mastered prior to the program at the rate of two or more skills per 20 sessions attended, and 30 percent would master five or more skills per 20 sessions attended, as

measured by an ongoing administration of the Individual Criterion Referenced test (I.C.R.T.).

EVALUATION PROCEDURES

Sample

OREA collected interview and observation data from seven of the 17 schools participating in the program. The sample was designed to represent students from a wide age range as well as schools from each of the five boroughs. OREA made certain that the sample included the one available SIE VIII site, one of the two Chapter I mathematics teachers, and two of the four non-public schools in the population. The three sites which had new Chapter I teachers were excluded from the sample. OREA collected data retrieval forms for all students who participated in Chapter I reading and/or mathematics sessions.

Data Collection

At the sample sites, OREA consultants interviewed the seven site supervisors, the seven Chapter I teachers, and 14 special education classroom teachers (two from each site). They also observed two Chapter I classes at each site, one with younger and the other with older students.

OREA consultants collected a data retrieval form for each student receiving reading instruction at all 17 sites. Attendance and academic information was recorded for each student, the number of sessions attended and the number of objectives attempted and mastered. In total, OREA collected 805 reading data retrieval forms (95.6 percent of the students receiving reading instruction) and 89 mathematics data retrieval forms (78.1 percent of the students receiving mathematics instruction).

Instrumentation

OREA consultants recorded interview data on schedules developed by the evaluation unit for Chapter I teachers, special education classroom teachers, and site supervisors. OREA developed data retrieval forms for student attendance and achievement. Instruments were designed to address all evaluation questions dealing with program implementation and outcomes.

Data Analysis

OREA consultants coded, aggregated, and analyzed responses to items on interview schedules to assess implementation. OREA staff evaluated the extent to which the program met its outcome objectives by tabulating data on the total number of objectives attempted and mastered by each participating student. OREA then used descriptive statistics to calculate the percentage of students who accomplished the achievement objectives.

III. EVALUATION FINDINGS

OREA's evaluation of the Chapter I Remedial Reading and Mathematics program for 1988-89 addressed program implementation (staff development, teacher collaboration, student instruction, parent contact and participant feedback) and program outcomes (student achievement in reading and mathematics).

IMPLEMENTATION

District 75 staff implemented the Chapter I program, providing services to 65 special education teachers working with 746 students receiving reading instruction only, and 114 students receiving reading and mathematics instruction in 13 public schools. It also provided services to 20 special education teachers working with 96 students receiving reading instruction only in four non-public schools. In total,
Chapter I worked with 85 special education teachers at 17 sites and provided reading instruction to 842 students. A total of 114 of these students also received mathematics instruction. The data presented in this section are based on these populations.

Site Selection

Chapter I staff selected the 13 public school sites with the largest number of program-eligible students (a minimum of 50). Within each site, classes that had not participated in the program in previous years were given priority.

Program staff selected non-public school participants in consultation with Central Division, District 75 personnel, and the Office of Student Information Services (which aggregated relevant student data). Chapter I and District 75 staff then met with non-public school administrators, teachers, and parents to plan the program.

Participant Selection

For the 1988-89 school year, the Chapter I program was modified to include only students who were in S.I.E. VII and VIII classes, whereas in previous years all special education students were eligible for this program. In addition, participant selection was to be based on student performance on the Stanford Diagnostic Reading Test, Third Edition* approved by the State Education Department (S.E.D).

Staffing

Chapter I was administered by a program coordinator from the Office of District 75 who was responsible for implementing the program, an assistant coordinator who helped with staff development activities, one Chapter I teacher assigned to each of the 13 public schools, and two Chapter I teachers assigned to the four non-public schools.

Chapter I teachers worked with approximately 50 students at each site, administering tests to identify their strengths, weaknesses, and individual needs for remediation. Based on this information, Chapter I teachers then proceeded to provide the appropriate instruction directly to the students, through whole class, small group, and individualized instruction. Chapter I program teachers worked jointly with the students' classroom teachers to develop a consistent, cohesive plan of instruction for students. Chapter I teachers were also expected to maintain students' records, folders, and daily lesson plans.

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*Participants completed the spring 1988 citywide test categories A or B, scored between the seventh and the 35th N.C.E. level in reading or mathematics, and had a reading and/or mathematics deficit indicated on their I.E.P. Exceptions were students scoring above the 35th N.C.E. level on an approved age-appropriate standardized norm-referenced reading test administered no earlier than spring 1988, and students whose mastery level in mathematics on the I.C.R.T. or another approved criterion-referenced test was no more than three years below grade level.

Staff Development

OREA asked Chapter I reading and mathematics teachers to identify what had been useful to them. They commented favorably on the instructional techniques they learned and specifically mentioned the use of semantic mapping, newspapers, computers, and reading games. They appreciated lessons in integrating reading and content areas, encouraging students to ask questions and responding to them, and using holistic methods of teaching.

OREA also asked these respondents to identify topics covered in orientation and training which they had found to be particularly useful. They cited topics such as phonics and other instructional techniques, methods of presenting information effectively, and developing lesson plans; they appreciated lessons in reading comprehension that involved finding the main idea and the character of a story. Teachers also commented favorably on the training in creative and effective writing, and content areas such as black history.

OREA found that Chapter I staff development was more limited than planned. Nine out of 14 special education classroom teachers responding reported they had received an adequate orientation from Chapter I staff. Three reported that they had received additional training beyond the orientation. Chapter I teachers received training from District 75's Central Staff Development Unit. Data were not collected on this training because it was not part of the Chapter I program.

OREA findings demonstrate that many topics relevant to the program's goals were covered in orientation and training. However the training provided directly by the Chapter I program was not as extensive as coordinators had planned.

Teacher Collaboration

Because of the importance of presenting students with a well coordinated and integrated instructional program, OREA gathered data on teacher collaboration. OREA asked special education classroom teachers how much they had collaborated with Chapter I teachers in planning. Of the 14 respondents, six reported that they had collaborated fully, five moderately, and three slightly. Half of these respondents also reported that they needed more time for planning.

OREA asked Chapter I teachers to report how much special education classroom teachers had collaborated in instruction during the Chapter I sessions. Out of eight who responded, half reported that there had been full participation, a quarter reported moderate participation, and the remaining quarter reported that there had been no participation at all. The response of special education classroom teachers was quite similar.

OREA's findings show that at least 71 percent of all respondents reported moderate or full collaboration in planning and instruction but half of the respondents reported that they needed more time for joint planning.

Student Instruction

At 91 percent of the sites, Chapter I teachers met the goal of providing a minimum of three sessions of reading per week. It is important to note that at 37 percent of the sites, teachers surpassed the minimum, providing 4-5 sessions per week. On average, the Chapter I program provided 3.4 reading sessions overall.

OREA asked Chapter I reading teachers to report the extent to which they had used student pre-test results to plan instruction. Six reported that they had done so fully

and one reported she had done so to a moderate degree. In investigating the instructional strategies special education teachers used in their reading classes, OREA found that nine used discussion, seven used silent reading and motivation, others used oral reading, answering questions, and practicing reading skills, reviewing previously acquired information, and phonics. A few teachers said they used vocabulary, flash cards, dictation, and study skills. Teachers reported that the materials they used for instruction were basal readers, teacher-developed materials, tape players, flash cards, and trade books.

Thus OREA's findings show that, as planned, teachers provided 3.4 reading sessions overall; student pre-test results were used by all respondents to develop instructional plans; and teachers used a wide variety of teaching strategies and equipment to provide instruction.

Parent Contact

OREA examined the amount of contact between program staff and the parents of participating students during the year. Of the seven respondents, all reported they had communicated with parents through notes and letters, individual conferences, and parent meetings; additional contact was reported by six respondents who talked to parents on open-school night, five who had talked with parents on the telephone, and five who had additional contact with parents at workshops. Thus OREA data indicate that Chapter I teaching staff had regular contact with parents through a wide variety of methods.

Perceived Strengths and Weaknesses of Program

OREA asked the Chapter I teachers (seven respondents) to identify the factors they thought had contributed to the success of the program. They commented on the

quality of the program's organization; they praised the Chapter I coordinator and her staff's involvement, and the quality and sufficiency of the materials the program provided. Special education teachers supported this perception and provided more specific comments about how the program was implemented in the classroom setting. With regard to program organization, respondents were quite satisfied with the student/teacher ratio, and the planning and scheduling of the program. Special education teachers were satisfied with the work of the Chapter I teachers, as well as the lessons, topics, and materials the program provided.

When OREA asked Chapter I teachers to identify program weaknesses, only two responded. They suggested that the program needed more Chapter I teachers and that program personnel should explore ways to improve students' daily attendance. Special education teachers identified three areas in which the program could improve. The first was a staffing issue; respondents commented that Chapter I teachers should play a larger role in the program and also needed additional assistance. With regard to program instruction, respondents reported that session time should be expanded and that the program schedule needed to be adjusted to accommodate teachers' other responsibilities. Special education teachers agreed with their colleagues that the program should explore ways of improving students' daily attendance, attitudes, and behavior.

Thus, OREA found that Chapter I participants approved many aspects for the program including its organization, its staff performance, and the appropriateness for lessons, topics, and materials. They most frequently suggested that the program could be improved by expanding staff, adjusting the instructional schedule and the number or length of sessions, and by working to improve students' attitudes and behavior.

OUTCOME OBJECTIVES

OREA analyzed the quantitative data to measure the extent to which the program met its outcome objectives for reading and mathematics. The findings are presented below.

Reading Achievement

OREA reviewed the reading achievement results of Chapter I students collected on student data retrieval forms. Table 1 presents the percent of students who demonstrated a gain in reading achievement, by test level. OREA found that 76.2 percent of the students in the program achieved a gain in reading achievement, exceeding the program goal of 75 percent.

Mathematics Achievement

Upon review of the Chapter I student achievement data in mathematics, Table 2 shows that of a total of 89 students for whom data were available, 66 students (74 percent) received 20 sessions or more of Chapter I instruction. OREA only included this population in the analysis of program effectiveness because students with fewer than 20 sessions could not be considered to have had minimum exposure to the program. (Twenty-three students were in the latter category.)

OREA found that 92.4 percent of these students mastered objectives at a rate of two or more per 20 sessions attended, surpassing the program objective of 80 percent. OREA also found that 34.8 percent of these students mastered objectives at a rate of five or more per 20 sessions attended. This also surpassed the program's objective of 30 percent in this category. Thus OREA found that the Chapter I program not only met but surpassed both achievement objectives in mathematics.

Table 1

Students Demonstrating
Gain in Reading Achievement, by Test Level

Test Level[a]	Number Showing Gain	Percent Showing Gain
1	302	81.8
2	153	73.9
3	20	54.1
4	5	55.6
Total[b]	(481)	76.2

Source: OREA-developed student data retrieval forms

[a] Reading achievement was measured by the Stanford Diagnostic Reading Test which has the following grade equivalents for each test level: level 1 = grades 1-3; level 2 = grades 3-5; level 3 = grades 5-9; and level 4 = grades 9-12.

[b] Only students with complete data including test level and pre- and post-test scores (631) were included in this analysis.

- *Slightly over 76 percent of the students achieved a gain in reading comprehension, exceeding the program goal of 75 percent.*

Table 2

Students' Mathematics Achievement

Number of Objectives Mastered[a]	Number of Students	Percent of Students	Cumulative Percent
5 or more	23	34.8	34.8
4	11	16.7	51.5
3	22	33.3	84.8
2	5	7.6	92.4
1	3	4.5	97.0
Less than 1	2	3.0	100.0
Total[b]	(66)	100.0	

Source: OREA-developed student data retrieval forms

[a] Refers to the number of objectives mastered per 20 sessions of instruction.

[b] Only students who attended 20 sessions or more were included; the remaining 23 students were considered to have received less than sufficient instruction.

- *Over 92 percent of students mastered mathematics objectives at a rate of two or more per 20 sessions attended, surpassing the program objective of 80 percent.*

- *Over 34 percent of students mastered mathematics objectives at a rate of five or more per 20 sessions attended, surpassing the program objective of 30 percent.*

IV. CONCLUSIONS AND RECOMMENDATIONS

The Chapter I Remedial Reading and Mathematics 1988-89 Program (Chapter I) was implemented by the Division of Special Education's District 75 of the Board of Education to provide remedial instructional services to SIE VII and VIII students in 13 public and four non-public schools providing reading instruction to a total of 842 students. A total of 114 of these students also received mathematics instruction.

Chapter I staff development covered many relevant topics, but, respondents reported that the amount of training provided was more limited than originally proposed. At least 71 percent of all respondents reported moderate or full collaboration between Chapter I teachers and special education teachers in planning and instruction, but half of the respondents reported that they needed more time for joint planning.

OREA found that, as planned, student pre-test results were used by all teachers to develop instructional plans and that teachers used a wide variety of teaching strategies and equipment to provide instruction. The Chapter I teaching staff maintained regular contact with students' parents through a wide variety of methods. OREA found that although Chapter I participants reported many positive aspects of the program such as its organization, the work of its staff, and the appropriateness of lessons, topics and materials, the most frequently mentioned suggestions for improving the program were that the Chapter I staff be expanded and that student attendance, behavior, and attitudes be improved.

OREA found the program surpassed its goals in student achievement. More than 76 percent of students for whom complete data was available demonstrated a gain in reading comprehension. Surpassing the program objective of 75 percent. In mathematics

achievement OREA found that 92.4 percent of students mastered objectives at a rate of two or more per 20 sessions attended. This surpassed the program objective of 80 percent. Nearly 35 percent of students mastered mathematics objectives at a rate of five or more per 20 sessions attended which surpassed the objective of 30 percent.

Based on the above findings, OREA makes the following program recommendations.

- Training provided by the Chapter I program should be expanded.
- Chapter I teachers and special education teachers should be given more time for joint planning and instruction.
- Chapter I staff should be expanded to include more classroom teachers.
- The program should explore ways of improving student attendance, behavior, and attitudes.